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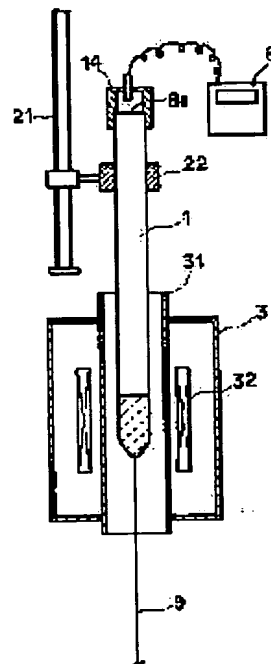
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(54) MEASUREMENT OF TEMPERATURE OF PREFORM MATERIAL FOR SPINNING FIBER

(57)Abstract:

PURPOSE: To accurately measure the temperature of a preform material independently of external factors such as the material of the furnace tube, the diameter of the preform material and the flow rate of the inert gas by attaching an infrared thermometer to the end part of the preform material and measuring the temperature of the heated part based on emission radiated from the heated part of the preform material.

CONSTITUTION: The spinning furnace 3 is composed of a furnace tube 31 and a carbon heater 32 and an insert gas such as argon is supplied from a gas supplier into the furnace. A preform material 1 heated to about 200° C in the furnace tube 31 goes down along a guide 22 and forms a crude fiber 9. The sensor unit 8a of an infrared thermometer 8 is fixed through a cylindrical tool 14 to the end part of the parent material 1 fixed to the clamp 21 so as to measure the temperature by detecting infrared rays radiated accompanying heat evolution of the preform material 1. In the case of the preform material 1 mainly composed of silica, the temperature of the sensor unit 8a can be considered as the temperature of the heated part without correction since the absorption within a range of the emission wavelength is low. In the case of the preform material absorbing the emission, the temperature is determined after making a correction based on the absorption by the preform material and the distance between the heated part and the end part.



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